

AMENDMENTS TO THE SPECIFICATION

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Please replace the paragraph beginning on line 20 of page 4 with the following amended paragraph:

A'
--Subband processing of a data signal having a data rate, comprises in principle of splitting said data signal into a plurality of data signals, with a lower data rate and modulating each of said plurality of data signals with another carrier. Said carriers are preferably orthogonal. In an embodiment said subband processing of a data signal can be realized by using serial-to-parallel convertors and using a transformation on a group of data samples of said data signal.--

✓
Please replace the paragraph beginning on line 13 of page 6 with the following amended paragraph:

A2
--In a third aspect of the invention an apparatus for determining estimates of data signals from at least two ~~at least~~ substantially simultaneously received data signals is disclosed, where said ~~Said~~ received data signals have at least partly overlapping spectra. Said apparatus comprises at least of at least one spatial diversity receiving means, circuitry being adapted for receiving said received data signals with said spatial diversity receiving means, circuitry being adapted for subband processing at least two of said received data signals and circuitry being adapted for determining estimates of said data signals from subband processed received data signals. Said apparatus can be exploited in uplink transmission methods in the processing peer.--

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Please replace the paragraph beginning on line 27 of page 13 with the following amended paragraph:

A3
--The downlink transmission method can be formalized as a second aspect of the invention being methods of transmitting data signals (200) from at least one transmitting terminal (240) with a spatial diversity transmitting means (220) to at least two receiving terminals (330) with at least one receiving means (320) comprising the following steps: (first step) determining (250) combined data signals (300) in said transmitting terminal, said combined data signals being transformed versions of said data signals; (second step) inverse subband processing (260) said combined data signals; (third step) transmitting with said spatial diversity means (220) (the obtained) inverse subband processed combined data signals (310); (fourth step) receiving on at least one of said receiving means (320) of at least one receiving terminal (330) inverse subband processed received data signals; (fifth step) determining estimates of said data signals (360) from said inverse subband processed received data signals.--

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Please replace the paragraph beginning on line 27 of page 21 with the following amended paragraph:

A4
--In one embodiment of the invention, methods for per-subband scalar combinatory processing for uplink communication are presented. Said per-subband scalar combinatory processing for uplink communication methods obtain soft estimates for data signal(s) in one subband and from one terminal in the composite peer, on basis of spatial diversity samples or modified spatial diversity samples in that subband. In an embodiment of the invention, said methods for per subband scalar combinatory processing for uplink communication obtain soft estimates for data signal(s) in one subband and from one terminal in the composite peer with linear methods. In this embodiment, the estimates of the data

signal(s) transmitted by the terminal(s) of the composite peer $\tilde{x}^u[s]$ {s} are calculated by linearly combining the single corresponding carrier signals or subbands received on the different antennas with the equalizer coefficients $E[s]$, following Formula 1 below.--

Please replace the paragraph beginning on line 6 of page 29 with the following amended paragraph:

A5
--Successive Interference Cancellation (SIC) can be described as an uplink transmission method wherein said determining of said estimates of said data signals from said subband processed received data signals in said receiving terminal for at least one data signal (but not limited to one) comprises the following steps: (first step) selecting from said data signals a selected data signal. This selecting step can for instance be, but is not limited to, selecting the first data signal from the data signals that are being ordered according to received signal power. (second step) determining an estimate of said selected data signal from said subband processed received data signals, for instance, but not limited to, by linear combining of the subband processed received data signals including slicing. (third step) modifying said subband processed received data signals based on said estimate of said selected data signal, for instance, but not limited to, by recombining and subtraction according to Formula 11, such that modified subband processed received data signals are obtained. (fourth step) Finally, ~~finally~~ estimates of said remaining data signals from said modified subband processed received data signals are determined, possibly by applying the same steps successively. Note that subband can also be denoted carriers.--